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The Story of a Picture

PUBLISHED BY THE
J. Ottmann Lithographing Co.
Puck Building.
31-39 EAST HOUSTON ST.,
NEW YORK.

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THE STORY OF A PICTURE

J. OTTMANN LITHOGRAPHING CO.
NEW YORK.

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J. OTTMANN LITHOGRAPHING COMPANY,
NEW YORK, U. S. A.

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SAXA LOQUUNTUR.

The Story of a Picture.

FOUR of us were seated in the private office one evening last winter, talking of various matters, when Howson, our secretary, began a discussion with Palmer about a painting he had seen that afternoon. From discussing the painting, the conversation drifted into a talk about pictures in general until Palmer, turning to his desk, remarked:—"I 'm glad you spoke of pictures. You remind me of some work I want to do. No, you need not keep quiet; I think it possible you can all help me."

Opening a large envelope he spread upon the desk four small, bright paintings, two in water colors and two in oils.

"These," said he, "are designs for a calendar and a book cover which were left at my office to-day by my friend, Mr. Salesman, of the J. Ottmann Lithographing Co.; I find it difficult to make a choice between them; Mr. Salesman has certainly caught the ideas I

suggested to him last week—any one of them will answer my purpose perfectly. Suppose we each make a choice and I will use the design receiving a majority of your votes. After we select our color designs I shall ask you to look at some drawings in black and white, which I propose to have engraved on stone for our new office stationery."

A choice was soon made, and then Howson said:—"How are these pictures made after you give your order to the lithographer?" Palmer laughed a little shamefacedly as he replied:—"Really, I have a very indistinct idea. I have bought large quantities of lithographed work of all sorts during the many years I have been in business, and I have called at the office of the Ottmann Co. several times, but I find on consideration, that my knowledge of how pictures are made is only a surface knowledge after all."

Field, who reads everything and goes everywhere, and who paints really good pictures, said:—"You know how much help I received from the lithographed pictures we get with the Art Magazines? Indeed, these pictures, many of them so like actual paintings in oil or water colors that one finds no difficulty in seeing just what colors to use in painting different objects and just how to lay the colors on—these pictures gave me my first start in the study

PUCK BLDG

of painting. Anxious to know how they were made, I read all that the encyclopædias had to tell, and grubbed through a lot of dry technical books at the libraries. I succeeded in learning much about the origin and the originator of lithography, but, like Palmer, my knowledge of the actual 'how it is done' is not worth talking about."

"I say, Palmer," broke in Franklin, "are you going to Ottmann's office to-morrow with those designs?"

"Well, no; I didn't intend to. Mr. Salesman promised to call for them to-morrow at eleven. This is our dull season, and as you younger people have no pressing duties, I can spare the time for learning some things I feel I ought to know. Can you all meet me here at nine o'clock, and we will go to the Ottmann Co.'s office, see Mr. Salesman, place my orders and ask for permission to look through the different departments of a lithographing establishment?"

"Field, can't you tell us something about lithography to-night? I don't want to appear like a regular greenhorn to-morrow," said Franklin.

"I think so. Lithography is much more modern than type-printing, having been

brought into use by a young Bavarian named Alois Senefelder, about 1791. Senefelder, whose father had been an actor, was sent to study law but soon tired of it and went on the stage, occupying his spare time by writing plays. One of his plays met with such success that he had it printed, realizing quite a sum of money. Printing, at that time, was by no means the artistic business it has since become; all the appliances were crude, and results far from satisfactory. Senefelder determined to find a way of producing his books in more attractive shape than was possible by existing methods, but the little money he possessed hampered his experiments. He tried etching on copper, but found this too costly and slow. In his work-room was a slab of lime-stone, smooth and soft, which he had used to grind his colors on. If he could etch on this as on copper, he could easily grind away the etched surface when he should have finished printing, and use the same stone again and again. After many experi-

ALOIS SENEFELDER.

OFFICE & COUNTING ROOM.

ments he found that, having first carefully ground and polished the face of the stone and painted it lightly with a weak solution of sulphuric acid in water, he could write on the stone with a pen, using ink made of oil and lamp-black. It was only necessary that he should write backward, thus: apply printing ink to the writing, press a sheet of paper on the stone, and behold, a Litho-graph! (a writing on stone).

"Here is how he tells of his discovery," said Field, taking down a book.

"'I had just succeeded, in my little laboratory, in polishing a stone plate, which I intended to cover with etching ground in order to continue my exercises in writing backwards, when my mother entered the room and desired me to write her a bill for the washerwoman, who was waiting for the linen. I happened not to have even the smallest slip of paper at hand, as my little stock of paper had been entirely exhausted by taking proof impressions from the stones, nor was there even a drop of ink in the inkstand. As the matter would not admit of delay, and we had nobody in the house to send for a supply of the deficient materials, I resolved to write the list with my ink prepared with wax, soap and lamp-black, on a stone which I had just polished, and from which I could copy it at leisure.

"'Some time after this I was just going to wipe this writing from the stone, when the idea all at once struck me to try what would be the effect of such a writing with my prepared ink, if I were to bite in the stone with aqua fortis and whether, perhaps, it might not be advisable to apply printing ink to it in the same way as to wood engravings, and so take impressions from it. I immediately hastened to put this idea in execution, surrounded the stone with a border of wax, and covered the surface of the stone to a height of two inches with a mixture of one part of aqua fortis and of ten parts of water, which I left standing five minutes on it, and, on examining the effect of this experiment, I found the writing elevated about a tenth part of a line (or 1-120th part of an inch). * * *

"'I now proceeded to apply the printing ink to the stone, for which purpose I first used a common printer's ball; but, after some unsuccessful trials, I found that a thin piece of board covered with fine cloth answered the purpose perfectly, and communicated the ink in a more equal manner than any other material I had before used. My further trials of this method greatly encouraged my perseverance. The application of the printing ink was easier than the other methods, and I could take impressions with a fourth part of the

power that was requisite for an engraving, so that the stones were not at all liable to the danger of breaking; and what was of the greatest moment to me, this method of printing was an entirely new invention, which had occurred to nobody before me.'

"In 1798 he discovered that it was not necessary to etch away the surface of the stone, leaving his drawing, or writing, in relief. He had but to make his drawing with an oil-ink, sponge the entire surface of the stone with water, pass a roller charged with greasy ink to and fro on the stone, and then print. The stone, being porous to an unusual degree, freely absorbs the water wherever there are no grease marks, the greasy ink from the roller cannot stick to the wet stone, but it can and does stick to every little speck and line of drawing that may be on the stone. If, after 'inking' the stone, a sheet of paper be laid thereon, pressed heavily for a few seconds and then lifted, you will find that it has absorbed most of the ink that came from the roller, all the marks on the stone having been reproduced on the paper. Roll on more ink, press down another sheet of paper and you have another copy of your drawing. And so on, and so on."

"It sounds easy," said Palmer.

"Oh! What I have told you does not describe all the details of lithography, but it gives you the principles very well, I think."

"Thank you, yes."

"I see it," cried Franklin, next morning as we turned eastward into Houston Street from Broadway. "See that large brick building with a flag, on the corner of Mulberry Street! And there's "PUCK" himself standing out in front of the third-floor windows."

"Yes," said Palmer, "the Ottmann Co. have printed all the color pictures in PUCK ever since the paper was first issued. This mammoth structure is called the 'Puck Building,' in honor of our jolly little friend, and was erected jointly by Mr. Jacob Ottmann and Messrs. Keppler & Schwarzmann.

"One, two — seven! Seven stories high," counted Franklin:—"But just look down Mulberry Street, there's a new part, that's nine stories high, and it's greater every way than this building on the corner."

"Yes," said Palmer, "this is one of the largest and most complete lithographing

Jacob Ottmann

houses in the world. Begun in 1869, in two small lofts on Fulton Street, it has grown to its present proportions through the hard work and honest endeavor of a few men. No one deserves so much credit for this wonderful success as the late head of this house, Mr. Jacob Ottmann, who died suddenly less than four years ago, a young man of forty. I knew him intimately for many years; no other man of my acquaintance has so impressed me by his seemingly tireless energy. He possessed executive ability which enabled him to grasp and follow even the details of this enormous business, and, had he lived, would have been foremost among the greatest business men of our time. Throughout his circle of friends, his faculty of remembering even seemingly trivial long-past events was a matter for frequent comment, and the high esteem felt for him by his associates is shown in the name they chose under which to continue the business he had built up — the J. Ottmann

ENTRANCE TO PUCK BUILDING.

Lithographing Co. Mr. Ottmann was yet alive and active when the corner building was erected and the business was moved up here from Warren Street. Since that time the trade of this house has increased so rapidly that the original building proved to be too small. This addition has been built, containing almost seven acres of floor space, more than half of a large city block. When the Elm Street extension is cut through just at the west side of this building, Mr. Salesman tells me his company will have four street fronts to the building, occupying an entire block, bounded by Houston, Mulberry, Jersey and Elm Streets. Now, let's go inside and ask for Mr. Salesman."

Entering the wide doorway at the Houston and Mulberry Street corner, we found ourselves in a long sunny room full of busy men, talking or writing, but all wearing a look of having plenty to do and not much time to do it in. A gentleman, writing at one of the desks, looked up quickly as we opened the door, saw Palmer, sprang up smiling, and hurried to meet us at the low railing. As he opened the gate and invited us in, Palmer introduced us to Mr. Salesman.

While they two were finishing up their business and booking Palmer's orders,

ART & ENGRAVING DEPARTMENT.

we walked about looking at the picture-lined walls. It was like going to the Academy of Design. There were copies of paintings by Edward Moran and Henry Mosler, Ranger, Dangon, Matt Morgan, De Longpré, Wm. Hart, Madeleine Lemaire and ever so many more.

Mr. Salesman soon came to us and said:—"If you 'll come with me, I shall be happy to introduce you to our manager and arrange for your trip through our building."

At a desk in the back part of the office I had noticed a quiet, busy man, who was surrounded by such heaps of letters as fairly made my head swim, yet he seemed to find time for a few words with the steady stream of people who came and went to and from his desk like a lot of bees 'round a hive. Rising, as we approached, he smiled, shook hands with us, and in answer to a few words from Mr. Salesman, said, "You shall see all there is to be seen in our house, and, if you will permit me, I shall be proud to take upon myself the honor of acting as your guide. We are always anxious to have our customers know as much as possible about lithography; it is for their interest and for ours. Come this way, please."

STONE-GRINDING DEPARTMENT.

As the elevator rose the Manager continued:—"You are now to see the first step in the making of a lithograph.

"Here are the stone-grinders; brawny, muscular men, who spend their days twirling one stone about on top of another over these tanks of water."

"What's that man putting on the under stone?"

"Sand and water. The stone is 'planed' in the machine yonder, then 'rough-ground' with sand and water, and finally 'smooth-finished' with blocks of pumice stone. When a stone is to be used for engraving or transferring, it is given a 'high polish' with blocks of bloodstone or agate; stones for color work have a finely 'grained,' or roughened surface."

"Where does this lithographic stone come from?"

TRANSFER DEPARTMENT.

"It is a soft, porous, cream-colored, or grayish limestone, and is sent to us from quarries at Solenhofen, in Bavaria. Lithographic stone, in small quantities, is found in other parts of the world, but none of it is so satisfactory in use as this Bavarian stone. After the stones are properly ground, they are sent to the artists.

"This is our Art Department. Here we have our own photograph gallery, where we can pose our models for any original design our customers may want, copyrighting it when necessary. Here, too, we enlarge or reduce pictures to any size, make photographs of objects for catalogues, etc., and do the thousand and one things for which photographs may be needed.

PHOTOGRAPH GALLERY.

"Yonder are our designers, among

them, men whose paintings have been hung in Academy Exhibits."

"What are all those rows and rows of men who are sitting at those heavy green tables?"

"Lithographic draughtsmen and engravers, who copy on stone in ink, or crayon, the color designs selected by our customers, or, when black and white work is wanted, engrave the designs by cutting lines in the stone with steel or diamond-pointed tools."

ARTIST.

We were in an immense room flooded with light from innumerable windows, all about us were double and triple rows of artists bent over heavy tables. On each table lay a slab of stone, looking more like a hugh block of dry putty than anything else. Everywhere we looked during our journey we saw these stones, in rows against walls and partitions, stacked on edge on massive shelves, being trundled across the floor on funny little two-wheeled wagons, on presses and on tables. In reply to a question, the manager said:—

BINDERY.

"We employed about 450 people during the year just past. Our product goes to all parts of the world. We make every known kind of lithographic work, plain or in colors, in quantities ranging from a few hundred to many million copies, and in almost every language, and we run a larger number of presses than any similar concern in the United States.

"After the artist receives the painting or other design he is to copy, he selects a stone of the right size and texture of surface, makes an accurate 'key' or tracing of the outlines of all the colors in the design, reproduces this 'key' on as many stones as there will be printings in the work he has in hand and then draws on these stones each separate color."

"Then you must make a different drawing on stone for each color?"

"Yes. All the red in a picture goes on one stone, all the blue on another, and so on. For the innumerable tints and variations of colors, however, we take advantage of combined or blended colors, making purple with red and blue, one on the other; making green with blue and yellow, and so on. Our artists must be keen, accurate judges of color,

giving thoughtful study to every part of the original painting before putting any drawing on stone. In this way we are enabled to produce a picture containing twenty-five or thirty colors, with only ten or twelve printings."

"What is this artist doing; fixing a watch?" asked Franklin.

The manager laughed. "No; he is engraving. Look through this magnifying glass and you will see that he is building a ten-story hotel on a space about the size of a silver half dollar. This engraving is part of a design for a letter-sheet heading for one of our new hotels."

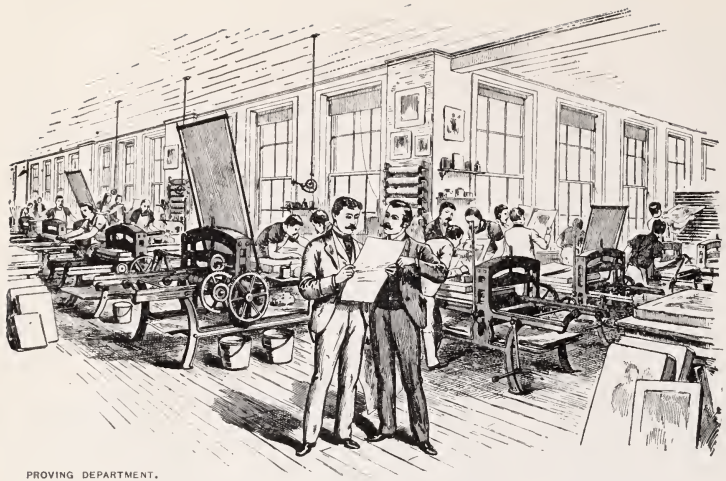
"In addition to your color lithographing, do you print much stationery?"

"Yes; large quantities of letter, note and bill heads, envelopes, bonds, certificates of stock, checks, drafts, insurance policies, and in fact all kinds of lithographing."

"Why is this stone black, on which the engraver works?"

"As he cuts lines in the stone they show white; he, therefore, coats the stone with gum-water and lamp-black before he commences an engraving; this makes every little mark more easily seen."

SHIPPING DEPARTMENT.



PROVING DEPARTMENT.

"And then, when he is done, do you begin to print?"

"Oh, no! When the drawings or engravings are finished on stone, they go to the 'provers.'

"These are some of our proving presses; worked by hand, very much as Senefelder worked his presses. Proving is a painfully slow and difficult task, and of necessity must be hand-work throughout."

"What's that 'prover' doing with a rolling-pin?"

"He is 'rolling it up' with ink. Having consulted with the artist who drew this

stone and decided on the exact shade of color he must use, the prover mixes his colors on that marble slab or 'palette' beside him. When the color is properly mixed, he takes up a 'roller'—which is, as you called it, a huge 'rolling-pin,' covered with soft, smooth leather,—after rolling it back and forth on the palette until it is sufficiently charged with ink, he wets the stone thoroughly and begins to 'roll-up' the drawing."

"But he just washed all the drawing off that stone with a cloth."

"He washed out only the black of the crayon. When our artists draw on stone they use black crayons, although the drawing may ultimately be used for printing a most delicate shade of pink, or light blue. The black in the crayon is there only to enable the artist to see his marks. The grease in the crayon remains on the stone after the prover washes away the black, and it is this grease which catches and holds the colored ink you have just seen 'rolled on' this wet stone. As you probably

PROVER.

EXAMPLE OF PROGRESSIVE PROOFS IN TEN PRINTINGS.

know already, the ink comes off the roller on the crayon marks alone. If the stone were not wet, the ink would soil the whole surface and render our drawing useless.

"When we print these proofs, the pressman makes a print or 'impression' of each separate color; then he begins his 'progressive proofs.' Taking the yellow as his first color, he prints ten yellow impressions (if the picture is to be completed in ten printings), then he prints with blue on one sheet of white paper and on nine sheets of the yellow; then with dark red on one sheet of white paper and on eight of the blue and yellow impressions. Continuing in this manner he has at last a proof of each single color, then of the first and second combined, then the first, second and third, until, with all the printings on one sheet, he produces the finished proof. After the proof is completed we can look through the progressive proofs and decide if any changes are necessary in the drawings on stone." (*See opposite page for example of progressive proofs.*)

"How do you make your ten or more colors to fit so exactly in the right place. Is it easy?"

"By no means. 'Registering,' or making the various colors fit one with another, is

our most difficult task. We are constantly experimenting, trying new inventions and different methods that suggest themselves, but nothing has yet been found from which we can get such beautifully clear and exact results as from stone. Of course, other things are necessary for correct 'register.' Our pressmen must exercise almost superhuman care and untiring watchfulness. Our paper must be specially made for the work and be of extra fine quality, and the clerk of the weather must be kind to us."

"Do changes in weather affect your work?"

"Indeed, yes; more than you can imagine. On damp days our paper will stretch, on dry warm days it shrinks, on cold clear days it becomes so charged with electricity that it sticks to everything with which it comes in contact."

"How do you overcome all these troubles?"

"By being patient and careful; and here is one of our greatest difficulties. Customers frequently ask us to 'rush work' for them. You have seen some of the many details through which a picture must go and how many people have a part in making it; you have so far seen but half the process. When you realize that each succeeding step must

be taken with as much careful, minute, patient watchfulness as has been shown hitherto, you may understand why we cannot 'rush things,' no matter how hard we try."

"I wonder that you ever get things right. Why, watch-making is a 'picnic' compared to this business."

"Yes, indeed. You see, no two of our orders are ever exactly the same. We do a 'made to order' business year in and year out.

"After the proofs are made, they are carefully examined to see that our stone-drawings are right; a correct proof is then submitted to our customer. If everything is satisfactory, the order is sent to the Transfer Department. Taking a small label or a picture card as an example, I will show you how we make transfers and prepare for printing. When our salesman took this order, he figured out how many labels, or cards, he would print on a single sheet, making a diagram or 'lay-out sheet' in accordance. The 'transferrer' examines this diagram, and then, on a specially prepared paper, prints as many impressions as there are spaces on the lay-out; he sticks one impression in each space and selecting a stone of the required size, he places it on his press, lays his 'stuck-up sheet' accurately, face down-

ward on the stone, applies pressure, dampens the back of the paper, 'peels' the paper from the stone, and there, you see, the large stone is covered with impressions of the drawing made by the artist; it is then 'rolled up,' 'cleaned' and 'etched,' and the transfer is ready for the printer."

"I notice that the 'transfer stone,' as you call it, has a uniformly smooth, flat surface. How in the world do you print from it? Are not the lines of your drawings in relief, or raised, above the other parts of the surface of the stone?"

"No, sir; the great underlying principle of lithography is found in the fact that oil and water cannot mix. Our inks with which the artists draw, with which we make our proofs and transfers, and with which we finally print in colors, are alike in one particular, they are all made with oil of some sort; are, in fact, grease-inks. As I showed you in our Proving Department, that we wet a stone after the design has been put on it but before the ink-roller is applied, you will see, at once, that the parts of the

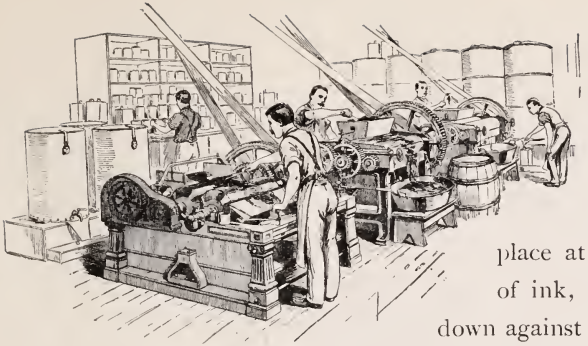
PRESS ROOM.

stone on which we have placed no marks, having become saturated with water, cannot take any ink from the roller."

"What is this specially prepared transfer-paper?"

"It is a thin, light but very strong paper made in India; the only paper we can use for this work. Before it is sent to the transferrer, it is coated by our workmen with a glutinous surface, soluble in water. When an impression is taken on this prepared surface, the lithographic ink adheres to the coating only. After a number of impressions sufficient for the transfer in hand have been made on this paper, the workman fastens them in the spaces on his 'lay-out sheet,' as I have just shown you. When he applies the requisite pressure to this sheet, as it lies on the large stone in the transfer press, and then saturates the back of the sheet with water, the 'transfer coating' dissolves, the ink is transferred to the stone and the paper is once more blank.

"Now we go up to our Press Rooms at the top of the building. For printing in colors we need the light of day and as much of it as we can get, so all of these giant presses, some of them weighing almost twelve tons apiece, must be up here under this great

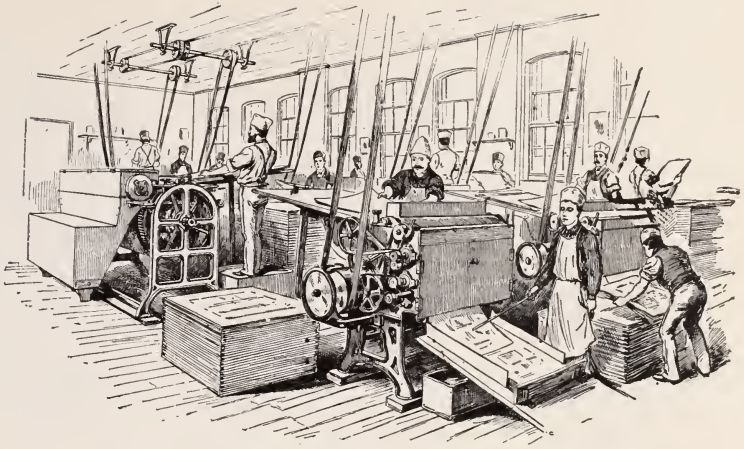


INK-GRINDING DEPARTMENT.

glass roof. After the right shade of ink has been mixed, and the stone, just up from the Transfer Department, has been adjusted in place on the 'bed' of one of these great steam presses, the pressman fills his 'ink fountain' (this trough-like place at the back of the press) with a pasty mass of ink, the 'feeder' boy slides a sheet of paper down against the 'guides,' the paper is grasped by the 'gripper' on the revolving cylinder, and is carried down around and under the cylinder. During this time the stone has passed to the other end of the press, toward the ink fountain, and has received its supply of ink from these 'rollers.' Swiftly it plunges toward the cylinder, it meets the descending sheet of paper, they disappear under the cylinder, the stone passes on under a 'dampening roller,' gets its bath of water and plunges back toward the fountain for more ink; the sheet of paper,

STONE VAULTS.

covered with the printed design, is thrown out on the 'fly-board' by a set of wooden 'fingers' or 'fly-sticks' and is quickly lifted away to be laid in the 'drying-racks' until next day, or when it shall be dry enough to receive the next color."

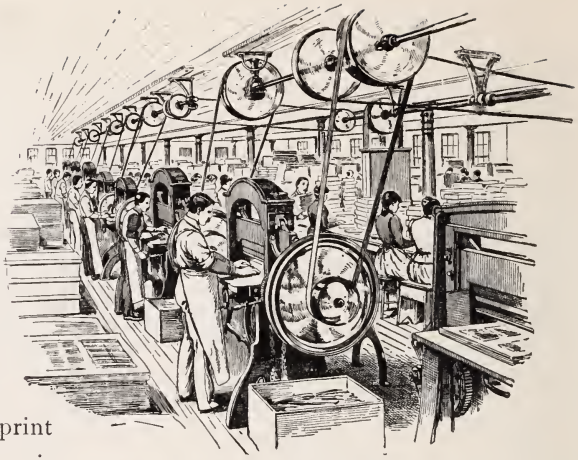


BRONZING ROOM.

"How soon after one color has been printed can you put the next color on your sheet?"

"Much depends upon the class of work, the number of colors already on the sheet, the 'body' (quantity of ink) in the color we happen to be printing, and many other things,

always remembering the weather. Sometimes we must wait three or four days; sometimes we can put on two colors in one day. Conditions vary so constantly that there can be no fixed rule.



CUTTING DEPARTMENT.

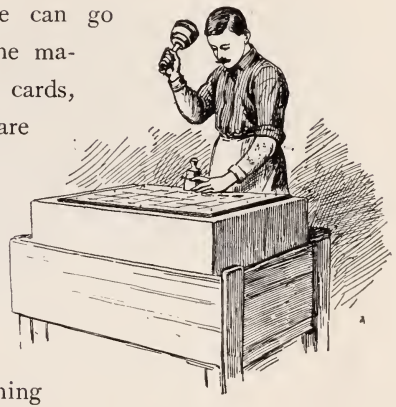
"Our Bronzing Room is interesting, but the whole place is so full of the flying particles of metallic dust that I do not think you will care for more than a peep into it. When we print gold or colored bronzes, we make a drawing of the gilded part of the picture, making transfers, etc., as for color, but we print the design with 'gold size,' then the paper is put through these bronzing machines where the bronze, in powder form, is rubbed and burnished. It sticks to the 'size' but may be brushed off all other parts of the sheet.

Bronze is always printed before any of the colors are put on a sheet, because if the color were printed first, the bronze powder would stick to and completely cover it from sight.

"Now that you have seen the sheets printed, we can go down to the Finishing Department. Here you find the machines for 'cutting down' the large sheets to small cards, labels, letter-heads, etc. These great noisy machines are for cutting out fans and card-board 'shapes' of many kinds.

"Here are 'hand-die cutters' who cut up small labels for perfume and medicine bottles, cigar bands and all similar small 'shape work.'

"This is our Bindery where you can see a small regiment of young women at work folding and stitching PUCK and other publications.



LABEL CUTTER.

CALENDAR DEPARTMENT.

"This is our Calendar and Inspecting Department. Every sheet of paper, every piece of card-board printed by us, must pass through the trained fingers and under the watchful eyes of these young women before it can be packed for shipment. Every piece of work that leaves this house is carefully examined before it is sent out.

"After the goods are cut and inspected, they go to our Shipping Department to be packed and shipped. "Now we'll go back to the office, unless you care to see our vaults where we store stones not in use."

"What! Are there more stones in this building than those we saw upstairs?" asked Howson.

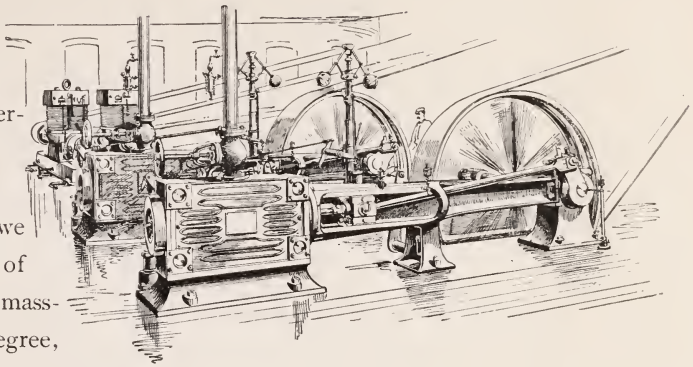
"Yes, thousands of them. Whole sub-cellars full. Then, too, we have fire-proof vaults full of mammoth books containing records and samples of every picture or engraving we have put on stone."

"What make are those two engines?"

"'Corliss;' and they are perfect of their kind."

"What horse-power?"

"Four hundred and over; we must have absolute uniformity of speed; most of our machinery is massive and rigid to an unusual degree, necessitating engines of exceptional power."



ENGINE ROOM.

"Well," said Palmer, "I never before knew how much skill and labor it took to make your work."

"Most people," said Field, "know the real decorative value of 'Chromos,' and the art education of America owes its phenomenal growth to the influence of the millions of really excellent pictures scattered throughout every village of our country by the wide-awake business men of our great cities."

"We have spent a really profitable morning here and I feel that I voice the sentiments of all you gentlemen, when I express to Mr. Manager our sincere thanks to him and to the J. Ottmann Lithographing Co. for teaching us 'The Story of a Picture.'"

DATE DUE

FEB 19 2014

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